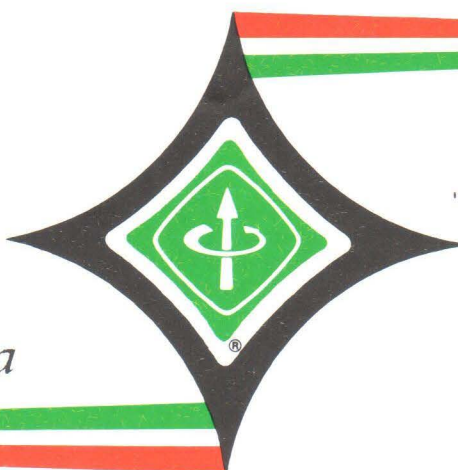


# IEEE

## Region 8 News

No 108 - November 1994  
Europe, Middle-east and Africa



Editor

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### From the Director

The two years I have served as Region 8 Director will end in December when I hand over to my successor, Peer Martin Larsen from Denmark. Our Region is a very lively and active part of the IEEE, showing steady growth in membership, an increasingly challenging technical programme and in the number of its Chapters, now well over one hundred. These increases have occurred despite the effects of the financial recession and the momentous political changes which have taken place.

This is a welcome opportunity to acknowledge the invaluable support provided by successive IEEE Presidents and the senior staff at Piscataway. They have fully recognised and understood the many problems confronting Region 8 and have worked with us to help overcome them. At this stage it is fair to record that there have been some notable successes but there are areas where further progress is needed. The relationships between the IEEE and the national electrical engineering societies have generally improved significantly. Formal agreements on joint membership are becoming more numerous and other forms of collaboration are bearing fruit.

The jointly sponsored IEE/IEEE office in Budapest, housed in the Hungarian National Engineering Society's building is a particularly encouraging development. Right across Central and Eastern Europe there are many similar opportunities for the two largest electro-technical learned Societies to cooperate and so aid the development of a strong technical activity base in countries

emerging from a difficult period in their history.

The provision of books and journals to Sections 'in need' has begun with the help of voluntary contributions from IEEE members in Region 8. A new library programme sponsored jointly by the Region and the major IEEE Technical Societies will begin shortly, with more than ten countries benefiting from gifts of back issues on microfiche and current issues in printed paper form.

The problem of dues payments in Sections where incomes are low or where currency exchange difficulties exist, is a major concern and remains high on the list of action items. I believe that we can reasonably expect progress here within a year or two. The failure to develop fully the Brussels office has been a major disappointment to many in Region 8 and no early relief is in sight.

Nevertheless, at least some of the frustration felt by members facing problems concerning membership renewals, non-receipt of publications etc., could be alleviated by contacting one of the telephone numbers in the box below. During the past two years I have visited many Sections and enjoyed meeting the Officers, ordinary members and especially the student members. Being a volunteer for the IEEE is a privilege, to be sure; it is also great fun. I can recommend the experience to all who are thinking of offering their services.

In conclusion it is a pleasure to thank the officers and members of the Region 8 Committee for their dedicated work on behalf of the IEEE and to wish Professor Larsen well in his new responsibilities.

**Voluntary Contributions.** All members in Region 8 are being asked make a voluntary contribution to help needy Sections develop their technical activities. Last year we collected about \$5,000, to which the IEEE added a similar sum.

Please use the entry on your dues and subscriptions invoice to make your contribution.

**Awards - A Reminder.** Fellow grade nominations must be received in Piscataway by 15th April 1995. Now is not too soon to begin the nomination procedures.

**Section Volunteer Award.** The deadline for the submission of nominations for the Region 8 Section Volunteer Award is 31st December 1994.

Charles Turner - Region 8 Director

### Problems?

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## Ocean '94: OSATES

*By Mme Frédérique Vallée*

An attendance of more than one thousand ensured the success of this conference of the IEEE Oceanic Engineering Society. Attendees had a choice from any of eight parallel sessions dealing with ocean monitoring and modelling, oceanography from space, satellite sensors, robotics and vehicles, instrumentation, signal and information processing, propagation and sonar.

The EUROMAR and MAROBOT meetings, the visits to oceanographic ships and laboratories were successful, as was the free public conference on bathyscaphes and Titanic surveys, held "downtown" in the presence of four hundred people. This successful issue is the result of two years' work by volunteers under the direction of Pierre SABATHE General Chairman and Bruno BARNOUIN chairman of the Technical Committee; the French chapter of the OE Society was also very active. The active and willing cooperation of all scientific and naval institutes from the Brest area was most helpful.

Full time graduate engineering and science students from universities in Europe and North America were invited to submit poster abstracts for judging. Conference expenses (travel, lodging, registration) were supported by the conference organization and a full paper was inserted in the proceedings of the conference for students selected to present posters. Students were from France: 8; Italy 2; Portugal 1; United Kingdom: 1; Russia 1; North America: USA & Canada 1.

This year 22 students were supported by IEEE-OES who made an important financial effort to help students from North America and Europe. The French Section of IEEE awarded a special prize of 500 ECU for the winner of the competition. The posters were available for viewing throughout the conference and three periods were allocated for the students to be in attendance and present their work. A jury selected the best three posters (according to the quality and originality of their work, poster presentation and explanation) and two honourable mentions. Prizes (apart the one given by IEEE-France) were presented by IEEE-OES.

The final result was as follows : First Prize (500 ECU ) - Linda MULLEN, Drexel University, Philadelphia, USA "Modulated Pulse LIDAR System for Shallow Underwater Target Detection"; second Prize \$200 - Stéphane GRASSIN, Telecom Bretagne, Brest, France "Automatic Detection and Estimation of Time of Arrival for Energy Packets in Acoustic Tomography Records"; Third Prize \$100 - Charles RANDELL, University of Victoria, Victoria, Canada "Robust Direction Finding and Auto-Orientation in an Acoustically Unstructured Environment". Honourable Mentions 75 \$US - Paolo CIPOLLINI, University of Pisa, Pisa, Italy "The effect of yellow Substance on Pigment Concentration Retrieval using "Blue to Green" Ratio"; Gabriel THOMAS, University of Texas, El Paso, USA "Underwater Acoustic Signal Analysis Based on Adaptive Data Extrapolations in Time-Frequency Representations".

## Region 8 Section Volunteer Award

*By Professor E. Folke Bolinder*

The Region 8 Fellows and Awards Committee, under the chairmanship of Professor Bolinder has initiated a new award, to be presented to a member of a Regional Section for outstandingly meritorious service to his Section. Potential candidates must be nominated by the Section Chairman and a Seconder. From the candidates submitted for the award in 1994 the following has been selected.

*Mr. Terence Oxley*  
of the UKRI Section

Mr. Oxley has been chairman of the Section's joint chapter MTT/ED since 1990 and is ex-officio a member of the UKRI Section executive committee. He was elected an IEEE Fellow in 1992 and has published in excess of one hundred articles; he has been a frequent lecturer at technical meetings.

He became chairman of the MTT/ED chapter at a time when it was almost totally inactive. He converted it into one of the most active chapters in the Section, successfully adding 'AP' and 'LEO' to the original group; the Chapter has regular financial support from the parent Societies.

During his period of office there has been a significant increase in membership of his societies. The chapter has pioneered the regular scheduling of meetings in many different locations both in UKRI and in Europe. He has regularly contributed news of Chapter events, to both the UKRI Section News letter and to Region 8 News.

## Cancer and Low-frequency fields

From time to time the newspapers burst into song on the basis of some new research 'proving' that one or other of the many forms of cancer is caused by low-frequency electromagnetic fields, although it is by no means clear that the journalist concerned is familiar with either the engineering or medical terminology. Public concern at these reports is understandable, but what is the factual evidence upon which they may be accepted, rejected or 'not proven'?

The findings of some epidemiological studies (the study of events or diseases occurring at a particular time or locality) have demonstrated an association between exposure to electromagnetic fields and the occurrence of cancer in children; but an association does not establish a cause and effect relationship. At the time when statistical links between smoking and lung cancer were being put to the public, Sir Ronald Fisher, a famous statistician, drew a perfectly valid statistical association between the incidence of lung cancer and the importation of bananas, but no one in their right mind would dare to suggest that bananas caused lung cancer. As in most experimental investigations it is necessary to use *cases and controls*, the former known to have the disease and the latter with no known abnormalities; both groups being matched for age, sex, origin and any other relevant factors; the results may or may not be helpful but they provide no evidence for a causal relationship.

The IEE (UK) attacked the problem by assembling a group of experts with a wide variety of relevant expertise, to study the available literature and assess its value as evidence for the existence of a causal link. Whilst being aware that electromagnetic fields arise from almost any electrical appliance or cable, the major thrust of the IEE enquiry concerned power lines and frequencies from 0.30 kHz and field strengths up to 50 mT, about one hundred thousand times greater than the background fields normally experienced in a work environment. The headings under which the study was conducted were: epidemiology, animal studies, biological cellular studies, medical applications and miscellaneous. Some of the studies suggested an association with specific cancers and pregnancy outcomes but in many the data were inadequate both in extent and method.

Some US studies used a 'wire code'. Since most electricity supply distribution in that country is by means of overhead wires, one method of estimating field strength is to count the number of wires between distribution poles and to include factors for the thickness of the wires, proximity to transformers and number of homes supplied by the same wires beyond the home of interest. Such investigations might fail to take account of socio-economic differences; community health; poor housing, nearness to main roads and population mobility.

A group of recent epidemiological studies is sometimes cited as 'proving a link with cancer'. Two of these, from Sweden and Denmark, suggest an association with cancer, whereas another, from Finland, shows no such association. The Swedish study showed an association between increased childhood leukaemia and inferred exposure to electromagnetic

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fields, but not to measured field-strength. It should be noted that the consumption of electricity in Denmark has increased 30-fold since 1945 but the incidence of all childhood cancers, including leukaemia, has shown no significant change.

Electromagnetic radiation is not the only potential hazard which may have a bearing on the incidence of cancers. According to some researchers terrestrial gamma radiation is a more significant factor in childhood cancers than foetal x-ray exposure; and since both terrestrial gamma radiation and foetal x-rays nowadays form a part of ordinary family living, they too provide evidence; but it may serve only to muddy the estimations of medical, engineering and physics studies of the supposed hazards.

An IEE survey found no evidence to justify either the high level of media speculation concerning low-frequency electromagnetic fields, or the needless public concern it generates.

On the available evidence it is clear that experiments conducted so far have frequently suffered from both poor design and poor execution; to remedy that situation would be extremely expensive, with the probability of only a very meagre reward  
(The Editor)

*Based partly on published work by the IEE and the Institute of Physics - (UK). The IEE Public Affairs Board Report No.10 "Possible biological effects of low-frequency electromagnetic fields - July 1991. From IEE PO Box 96 Stevenage, Herts. SG1 2SD price £5. Supplementary report of the NRPB Advisory Group on Non-ionising Radiation, Vol.5 No 1 1994 is available from Her Majesty's Stationery Office price £10.*

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## Chapter Coordination Committee

By Professor Basil Papadias

Chapter Statistics: In Region 8 28 Societies are represented  
by:

- 160 Chapters: of which 72 are single and 88 joint chapters.
- or 110 chapters and joint chapters - 72 single and 38 joint.

The joint chapters are as follows:

- 29 double joint chapters (one inter-section chapter)
- 6 triple joint chapter (one inter-section chapter)
- 4 quadruple joint chapters.

Nominations are invited for new members of the Chapter  
Co-ordination Committee - they will be chapter coordinators  
for the following chapters:

- Control Systems
- Signal Processing

The 7 Societies having no Chapter in the Region are:

- Broadcast Technology
- Education
- Dielectrics and Electrical Insulation
- Geoscience and Remote Sensing
- Nuclear and Plasma Sciences
- Systems and Cybernetics
- Ultrasonics, Ferroelectrics and Frequency Control

Chairman: Professor Basil Papadias, NTUA Elec. & Comp. Eng. Dept.  
42, Patission Street, 10682 Athens, Greece. Fax: +30 1 3605 604.  
Tel: +30 1 3600 551

## Obituary - Professor V.I. Siforov

Russian Academy of Sciences

Vladimir Ivanovich Sifrov, an outstanding scientist in the  
field of information theory and statistical communication, died  
on 3rd October 1993. His scientific research work of was  
always distinguished by its novelty and originality of method,  
and always dealt with up-to-date subjects from a practical  
point of view. He was elected an IEEE Fellow in 1967.

He graduated from the Leningrad Institute of Electrical  
Communication and from 1954 to 1966 he was head of the  
Laboratory for Radio Relay Communication in the Institute for  
Radio Engineering in the USSR Academy of Sciences. During  
these prolific years he created a theory of noise and fading  
accumulation in main radio-relay lines, studied the noise  
immunity of lines with error correcting codes, and developed a  
capacity theory of radio channels with random parameters.

From 1945-55 he was USSR deputy minister for the  
radiotechnical industry, and from 1966-89 Director of the  
Institute for Information Transmission Problems. Under his  
leadership the Institute carried out a number of fundamental  
studies in the field of information transmission, distribution,  
processing, storage and transformation in physical and biological  
systems.

We extend our sympathy to his family, colleagues and  
friends.

I.A. Ovseevich

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# NEWS FROM THE SECTIONS

## UKRI : MTT-ED-AP-LEO Joint Chapter

By Mr. Terry H. Oxley

As from 9th September 1994 the Chapter title has been changed so as to include the Lasers Electro-optics Society; it is a pleasure for the Chapter to represent the interests of this additional Society chapter.

In the February issue of Region 8 News there will be a report on the European Chapter Workshop "CAE Modelling and Measurement Verification"; and also on the membership booth at the "Microwaves '94" conference held in the Wembley conference centre London.

Plans for November-December 1994 include:

● EDMO '94 workshop: "High Performance Electron Devices for Microwave and Optoelectronic Applications" at King's College, Strand, London on 14th November. It is sponsored by the ED & MTT societies and the IEE. The technical programme will discuss the ever demanding requirements for advances in semiconductor materials, device processing and circuit design. Contact: Workshop chairman Dr. Ali A Rezagadeh, Department of Electronic and Electrical Engineering, King's College. Tel: 0171 873 2879. Fax: 0171 863 4781.

● Evening Lecture: "Whatever Happened to SDI" by Peter Varnish OBE - Ministry of Defence. At King's College London, 6 pm Wednesday 23rd November 1994. Contact: Dr. Neil Williams, E.R.A. Technology Ltd., Cleeve Road, Leatherhead, Surrey KT22 7SA. Tel: 01372 367061. Fax: 01372 367099.

Evening Lecture: "Intelligent Driver Support" by Raglan Tribe, from Lucas Advanced Engineering Centre. At King's College London, 6 pm Wednesday 7th December 1994. Contact: Dr. M.J.Sisson, Marconi Radar and Control Systems Ltd., PO Box 133, Chobham Road, Frimley Surrey GU16 5PE. ~Tel: 0126 63311. Fax: 01276 695498.

The evening lectures are free and open to all. Overseas visitors are especially welcome.

The Planning of our 1995 programme is proceeding and it will be publicised in the February issue of Region 8 News. It is anticipated that it will include the following events of international interest.

● EDMO '95 Workshop: "High Performance Electron Devices for Microwave and Optoelectronic Applications: University of Leeds - date to be announced.

● MMM Com. International Symposium - "Microwave and Millimeter-wave Communications". Jointly organised with the UKRI Communications chapter, at King's College London - date to be announced.

Chapter chairman: Mr. Terry H. Oxley, "Tremont", Back Lane, Halam, Southwell, Newark, Notts NG22 8AG.  
Tel: +44 1636 815510. Fax: +44 1636 815865

## North Italy

By Dr. Alessandro Gandelli

During the summer of 1994 there were four main IEEE events in North Italy

The International Workshop on "Mathematical Methods in Electrical and Electronic Measurements" - 8th-10th July 1994 and the "Third Volta Colloquium on Partial Discharge Measurements" - 31st August - 2nd September 1994. Both were held in Como, at the Villa Olmo Conference Centre; they were organised under the joint sponsorship of the Section and the I & M chapter.

In both meetings invited experts talked about problems related to advanced instrumentation and mathematical theory; on the one hand from the point of view of dielectrics and on the other hand from the point of view of PD measurements. There was an excellent attendance of highly qualified participants, both from academia and industry. The main purpose of these events is to establish an active and informal exchange of information among experts working in the same field. The work started at these Workshops will continue during the coming months and will result in joint publications by those who attended.

The other two events were represented by the 1994 International Conference on Industrial Electronics, Control and Instrumentation: IECON '94 in Bologna, 5-9th September 1994; and the 6th International Conference on Harmonics in Power Systems ICHPS VI Bologna, September 21st-23rd 1994. Both meetings had a satisfactory attendance and enjoyed a high standard of presentation.

The next International conference in the North Italy Section will be held in Torino on 2nd-4th November 1994, in conjunction with the IEEE MTT-S European Topical Congress - Technologies for Wireless Applications

Chapter Chairman: Professor Luigi Dadda, Dipartimento Elettronica, Informazione, Politecnico di Milano, Piazzale L. da Vinci 32, I-20133 Milano, Italy. Tel: +39 2 2399 3510. Fax: +39 2 2399 3411  
E-mail: Dadda@Elet.PolMI.IT

## TURKEY

By Dr. Mehmet Ali Tan

Our Section is becoming increasingly active; MELECON '94 being a part of our programme of which we are all particularly proud - to the best of our knowledge it was the largest International Electrical Engineering Conference ever held in Turkey and took place in Antalya on 12-14 April. It was a success! We achieved a surplus despite such negative factors as a strike of Turkish Airlines, the only airline company available to Antalya for both domestic and international flights. We estimate that it caused about 20% loss in attendance.

The Circuits and Systems Chapter in Turkey Section has been selected as this year's recipient of The IEEE Circuits and Systems Society Chapter-of-the-year Award. This award was presented at the International Symposium on Circuits & Systems '94 in London on May 30.



The Signal Processing Chapter organized the Second Signal Processing Workshop in Turkey early in April. Distinguished Lecturer of SP Society Prof. Jan Biemond gave several lectures, one of which was within this workshop.

Our Communications Society Chapter was approved by the IEEE Regional Activities Board in mid May. The COMSOC Chapter is the eighth chapter to be formed within

the Section; all eight Chapters are active.

We are working on several projects which we hope will satisfy some of the needs of our members. One of these projects is to provide electronic mail access for those who do not currently have an e-mail. The vice-president Bulent Orencik and the Computer Chapter chairman Mehmet Tolun are working on that. We hope that starting

from Istanbul, as early as November, we shall be able to provide this service partially free of charge, and with a special low-rate for the excess use. The service will be extended to Ankara secondly early 1995. Eventually, we are planning to reach all the members in Turkey. If you do not have an e-mail access and wish to take advantage of this service, contact me by any means available.

The second project is the World Wide Web (WWW) server of the IEEE Turkey Section. You can access this Web Server from any computer operating under UNIX and/or having X-Windows by the Web clients (i.e. commands or programs for browsing WWW)

“mosaic <http://www.ee.bilkent.edu.tr/~ieeee/ieeee.html>” or “xmosaic <http://www.ee.bilkent.edu.tr/~ieeee/ieeee.html>” or “lynx <http://www.ee.bilkent.edu.tr/~ieeee/ieeee.html>” or “www <http://www.ee.bilkent.edu.tr/~ieeee/ieeee.html>”

I hope all of you who have access to such facilities will try the Web Server of our Section. I am sure you will find it very useful and enjoyable. If you try it, please send your comments and ideas or news to be posted on it to me.

These are some of the services which we may provide for you to satisfy your needs as IEEE members. Please let us know as soon as possible, if you have anything in mind that you want us to work on, particularly if you think it would increase the members' satisfaction with their membership; our satisfaction comes from voluntary service to the members

I would like to encourage those who may be eligible to apply for IEEE Senior Membership Grade to complete their application form as soon as possible. I wish to make it clear that the elevation to Senior membership does not increase the fees or dues, neither does it introduce any extra cost to a member. Please contact me on this matter if you have any questions.

Please contact me if you have questions, suggestions or complaints

Section Chairman: Dr. Mehmet Ali Tan, Bilkent Universitesi, Elektrik Muh. Bol., 06533 Bilkent, Ankara and PHONE: +312-266-4307 or FAX: +312-266-4126 or E-MAIL: “[m.tan@ieeee.org](mailto:m.tan@ieeee.org)” or “[tan@ee.bilkent.edu.tr](mailto:tan@ee.bilkent.edu.tr)”

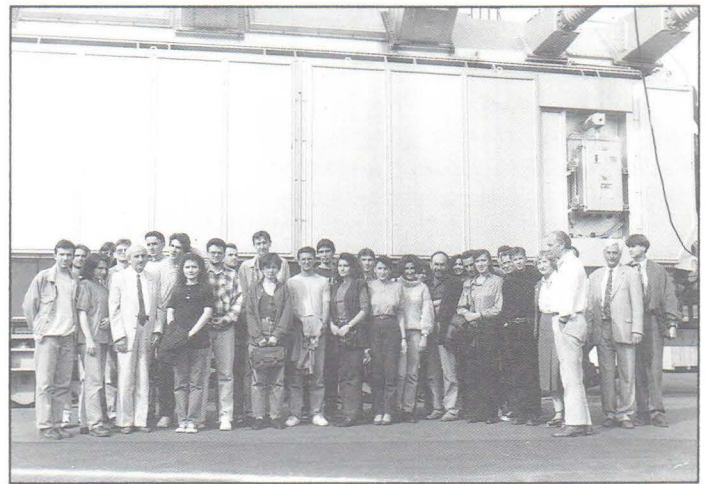
## *Sarajevo Students joining IEEE*

*By Andreas Leiner and Roman Mittendorfer*

Due to the war in former Yugoslavia no regular education has been possible in electrical engineering at the Technical University of Sarajevo. For education in telecommunications one needs laboratory and technical equipment; that is missing. The World University Service investigated the possibility of utilising the laboratories of the University of Technology Graz, Austria, so that Sarajevo students could complete their studies. The Government of Austria and the Soros Foundation would share the maintenance and teaching costs for 35 students and their professors during the summer holidays. With a hard 40 hour working week, it would then be possible for the students to complete their studies.

On the initiative of the former Region 8 Director Prof. Richter, the students of Sarajevo contacted the Student Branch at the University of Technology Graz. An information event was organised by the Student Branch Graz for foreign students and professors, in order that they may obtain a true impression of the workings of the IEEE and the Student Branch. With the help of a Region 8 programme it was made possible for both students and professors of the University of Sarajevo to become members of the IEEE.

During the time that the Sarajevo students were in Graz, many activities, such as technical tours and tourist visits, were made in the company of the Graz Student Branch. Due the difficult political situation the care of the Sarajevo students was in the hands of the Student Branch Graz, e.g. IEEE publications will be sent in bulk from Graz to Sarajevo. The communication between these two universities is via a well working e-mail connection.



*Students of Sarajevo Technical University and IEEE Student Branch Graz visiting the ELIN plant in Weiz, Austria.*

We hope that other branches will follow this example to help students in countries with economic or political problems.

*Region 8 Student Representative:*

*Roman Mittendorfer, Muenzgrabenstr. 244/21/4 A-8010 Graz, Austria.*

*Tel: +43 316 873 7274, Fax: +43 316 873 7266,*

*E-mail: [r.mittendorfer@ieeee.org](mailto:r.mittendorfer@ieeee.org) or [ittendorfer@ftug.dnet.tu-graz.ac.at](mailto:ittendorfer@ftug.dnet.tu-graz.ac.at)*

## *FINLAND*

*By Aarno Lehtola and Jari Jokiniemi*

**The annual Meeting of the Section will be held in the Parliament House on December 16th:** The Parliament House of Finland, Mannerheimintie, Helsinki, is the building you cannot possibly miss - **Friday, December 16th starting at 16.00.** In addition to the ordinary AGM agenda, the premises of the parliament house will be shown to the participants and there will be a discussion on the technology and educational policy of Finland. Our host will be IEEE Fellow, Member of Parliament, Prof. Martti Tiuri.

Advance registration should be completed by Wednesday, December 14th. Call or send e-mail to the Section Secretary Jari Jokiniemi, tel. 90-456 6009, fax. 90-456 6027, [jari.jokiniemi@vt.ttu.fi](mailto:jari.jokiniemi@vt.ttu.fi), or to the Section Chairman Aarno Lehtola, tel. 90-456 6032, fax. 90-456 6027, [aarno.lehtola@vt.ttu.fi](mailto:aarno.lehtola@vt.ttu.fi).

**IEEE President Visited Finland:** The President of IEEE H. Troy Nagle visited Finland on September 15th and 16th accompanied by Lloyd “Pete” Morley, Sony Barber, Bob Wangerman, Ted Hissey, Diana Bendz, and Peer Martin Larsen (the Director-elect of Region 8). The activities of the Section were emphasised by lectures and meetings with Finnish IEEE volunteers and other members. Moreover, the delegates visited Nokia Corporation, ABB, Technical Research Centre of Finland, and Helsinki University of Technology. They also met the representatives of the major national technical societies of Finland: Yrjö Blåfield (Finnish Society of Electronics Engineers, *Elektroniikkainsinöörien seura ry*), Seppo Rautakivi (Finnish Information Processing Society, *Tietotekniikan liitto ry*), Kai Konola (Association of Electrical Engineers in Finland, *Sähköinsinööriliitto ry*), Antti Niemi (Finnish Society of Automation, *Suomen automaatioseura ry*) and Eero Hyvönen (Finnish Artificial Intelligence Society, *Suomen tekoälyseura ry*). The meeting intensified co-operation between the IEEE and the national societies. The visitors also met professors Leo Motus and Vello Kukk from Estonia in order to promote IEEE operations in Estonia.

**Electron Devices Chapter in Finland ?** The Section is studying ways of promoting Electron Devices Society activities in Finland; the number of members in ED Society in Finland is small. Timo

Karttaavi is canvassing the opinions of Finnish EDS members. The choices are; independent chapter, joint chapter with MTT/AP a joint chapter with SP/CA contact Timo Karttaavi tel. 90-456 5635, E-mail. Timo.Karttaavi@vtt.fi. Opinions and suggestions are welcome!

IEEE ISSSTA '94 Was A Success: the ISSSTA '94 Symposium on Spread Spectrum Techniques and Applications was held in Oulu, July 4-6th. There were 350 attendees from 33 countries and 121 presentations in 22 sessions. The symposium brought some profit. Finland Section sponsored the symposium in association with 14 other organizations.



A short walk in Otaniemi, Finland, (from left to right): Aarno Lehtola, Vello Kukkk, Leo Motus, Iiro Hartimo, Troy Nagle, Pete Morley, Ted Hissey, and Jari Jokiniemi

## Greece

by G.I. Stassinopoulos

Professor Epameinondas Kriezis (tel.: +30 31 996311, e-mail: epam@vergina.eng.auth.gr) of the Aristotle University of Thessaloniki is busy organizing the 8th ISTET (International Symposium on Theoretical Electrical Engineering), to be held at Thessaloniki, September 22nd-23rd, 1995. This is expected to be a major event our and an excellent opportunity to mobilize numerous volunteers in the northern part of our Section: Thessaly, Macedonia and Thrace. Abstracts are welcome with a deadline at the end of this year.

We are also very pleased with the involvement of industry in our Section, otherwise heavily dominated by academic members. In this light INTRACOM, a major electronics and telecommunications manufacturer took the lead in organizing the 1994 IEEE Workshop on Neural Methods for Signal Processing. This was held at the seaside resort of Ermioni (Sept. 6-8th, 1994) with an impressively spread international participation. Key speakers were Dr. Leon Bottou of Neuristique Inc., France; Dr. Dan Hammerstrom of Adaptive Solution Inc., USA and Dr. Kazuo Asakawa of Fujitsu Laboratories Ltd., Japan.

Section Chairman: Professor G.I. Stassinopoulos, National Technical University of Athens, Division of Computer Science, Heroon Polytechniou 9, 15773 Zografu, Athens, Greece.  
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E-mail: grieeee@theseas.ntua.gr

## Spain

By Dr. Jordi Romeu

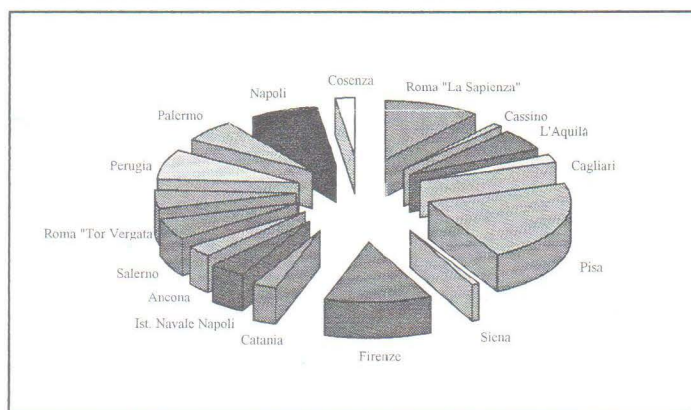
The AESS student chapter is organising a robot contest; it will be held on 29th March 1995. The contest is based on Japanese Sumo fighting, where two adversaries try their best to push the other out of the game field. Contact A. Ferraté Concours Robot 95, Campus Nord UPC, Modul B-5 08071 Barcelona, Spain. Fax: 34 3 401 70 50.

From 19th July a Power Engineering Society chapter has been approved. Contact: Dr. I.J.Perez-Arriga, University Pontificia Comillas, Alberto Aguilera 23, 28015 Madrid, Spain.

## Students: Central and South Italy

By Giuseppe Pelosi

Among its activities, the Executive Committee of the Central and South Italy Section, has from 1992 tried to stimulate membership growth, in particular among students. Besides encouraging the formation new Student Branches, many new activities have been initiated inside the existing ones. For example a project was promoted by the Students of the University "La Sapienza" (Rome). The project, entitled "Invite an IEEE student member!" has as its aim the facilitation of contacts among students and the professional world in the electrical and electronic engineering field. Moreover, the committee granted 30 scholarship awards reserved for engineering students in the electrical, electronic, computer science and telecommunications fields. The prizes, awarded on the basis of the participant's curriculum, consisted in a two years membership of one of the IEEE Societies. This award was largely promoted by the Universities of the Section; applications were numerous from all the Universities. The figure below shows the proportional division of the Universities from which the application were received



The increase in Student members is significantly greater this year than in the previous year; it was -3% in 1993, rising to a peak of . 63% in May 1994. This figure is expected to rise as a consequence of recent promotional activities initiated by the Executive Committee. The table below shows the percentage increase of Student numbers in the Universities of the Section:

University	%	University	%
Pisa	22	Roma	5
Firenze	12	Navale Napoli	4
Roma "La Sapienza"	11	Catania	3
Napoli "Federico II"	8	Ancona	3
Perugia	8	Calabria	2
L'Aquila	6	Cagliari	2
Palermo	6	Siena	1
Salerno	6	Cassino	1

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Tel: +31 70 330 2721. Fax: +43 316 873 7266

## UK Telephone & Fax Numbers

As from 1st April 1995 all UK Telephone & Fax numbers will be changed; a "1" will precede the area code. e.g. the current codes for London are 71 or 81; the new codes will be 171 and 181

## FRANCE

**CONFERENCES** We announce that the French Section will sponsor the international conference Jicable'95, organized by SEE, on June 1995, 26th to 30th, in Versailles, France: - Jicable'95, 4th International Conference on Energy Insulated Cables.

**CALL FOR PAPERS** : - **OCEAN CITIES**, first International Symposium on Ocean Cities. Deadlines: 15:02:95 for abstracts - 31:08:95 for texts. Inf. : Ocean Cities '95 General Secretary, SEE, 48 rue de la Procession, 75724 Paris Cedex 15. Tel: 33 1 44 49 60 60. Telex: SEE 200565 F. Fax: 33 1 44 49 60 44.

**OCEAN 94 OSATES** : 1,000 persons attended the OCEANS' 94, conference of the Oceanic Engineering Society, held in Brest (France) from 12th to 16th of September. 40% were from France, more than 20% from North America, 10% from UK, 5% from Scandinavia, 5% from Russia, 4% from Germany and 6% from elsewhere in Europe.

**Student Poster Competition** The Oceanic Engineering Society and the French Société des Electriciens et des Electroniciens conducted a student technical poster competition to foster their participation in the OCEANS 94 conference.

**EMC CHAPTER ACTIVITIES** : Dr Ferdy Mayer, in his capacity as Member of the EMC-S Board in the United States, and member of the international committee, manned the IEEE booth at the International EMC Conference in Manchester, UK, Sept. 5-7, 1994. With a parallel presentation of the ongoing Standards Committee work (PAR 1128), a great interest was shown in the IEEE Society, resulting in a number of new members, for the IEEE as well as for the EMC-Society.

*Dr Mayer and Mr Martin Green, Chairman of the UK Chapter.*



## NEWS IN FRENCH

**Conférences de l'A.R.E.** : Dans le cadre des accords passés entre l'A.R.E. (Conférences du soir des Anciens de la Radio et de l'Electronique) et la Section française de l'I.E.E.E., nous annonçons les conférences suivantes : - "Une technique très utilisée : le spectre étalé ou la compression d'impulsion" par M.H. Carpentier, 14 décembre 1994. Ces conférences auront lieu à 17h, dans la salle n° 11 de la FIEE, située au quatrième étage du 17 rue Hamelin, PARIS 16ème - Secrétariat : Mme Birckel 46 07 40 77 - Métro Boissière ou Iéna. L'entrée est gratuite, des rafraîchissements sont servis pour clore agréablement la séance.

**Conférences organisées par le chapitre EMC** : - "Tests et mesures dans la perspective de la Directive CEM", 30 décembre 1994. - "Atelier sur la prise en compte de la Directive européenne sur la CEM" - Présentation de "EUROMAZE", disquette interactive d'aide à la mise en œuvre de la Directive CEM - Avril 1995. Ces conférences auront lieu à 17h30, à l'ISEP (Institut Supérieur d'Electronique de Paris), 28 rue Notre Dame des Champs, 75006 Paris - Métro : "Notre Dame des Champs" ou "Montparnasse". Téléphoner pour toute inscription à la SEE, Club 25, 48 rue de la Procession, 75724 Paris Cedex 15, tél. : (33) 1 44 49 60 17. (Droits d'inscription : 100 F pour les membres IEEE et 150 F pour les non membres SEE & IEEE).

*Section Chairman: Mr. Maurice Papo, 14 Bvd Prince de Galles, 06000, Nice France. Tel: +33 93 81 41 12. Fax: +33 93 53 26 73. E-mail: m.papunovic@IEEE.org.*

## Russia

*By Dr. Jacob Baal-Schem*

ICSC '94, the International conference on Satellite Communications, was held in Moscow on 18-21 October 1994. This is the first conference organised by the IEEE Russia Section, in collaboration with the Russian Popov Society.

There was an attendance of some 300 at the fourteen sessions, where 90 technical papers were presented. The conference heard greetings from the IEEE President, Troy Nagel, and from the IEEE Communications Society.

At a short ceremony the President of the Popov Society, Professor Yuri Gulyev, presented a certificate of Honorary Membership of the Society to Dr. Jacob Baal-Schem in recognition of his services to the Russian Section. The Region 8 Director, Charles Turner, in opening the Conference thanked the organisers of the event, especially Dr. Hennrich Lantoberg, vice-chairman of the Russian Section and Professor Juri Zoubaver, Chairman of the newly established Communications Chapter

Next year, in May, the Popov Society will celebrate the centenary of the first practical application of radio waves. The conference will be held on 4-6th May 1995. Contact: 103879, GSP, Moscow K-31, Kuznetski most 20/6, Russian A.S. Popov Society. Tel: 095 925 41 55 Fax: 095 925 93 98.

*Section Chairman: Prof. Yuri V. Gulyaev, Institute of Radioengineering, Russia Acad.Sci, 11 Mokhovaya St., Moscow 103907, Russia. Tel: +7 095 200 5258. Fax: +7 095 203 8414 E-mail: gulyaev@ire.ucp-free.msk.su.*

## Poland

*By Mr. W. Moron*

**Wroclaw Symposium on Electromagnetic Compatibility.** This international event was held on 28-06 : 01-07, 1994. It was organised by the Association of Polish Electrical Engineers, the Institute of Telecommunications, the Wroclaw Technical University and was co-sponsored by a number of international organisations. There were two hundred and fifty participants from twenty six countries and the Proceedings contained over one hundred and thirty papers.

Professor: F.L.H.M. Stumpers - Region 8 Director circa 1970 - was awarded an honorary doctorate of the Technical University of Wroclaw; he has been the Scientific Programme Chairman of the Symposium since 1975, during which time he has conducted a fruitful cooperation in the EMC field.

Plenary sessions were held on the first and third day: "The Radio Universe" by Prof. Sir F. Graham-Smith (UK) and The International Framework for Spectrum Management by Mr. M. Goddard (UK).

There were two exhibitions, one dealing with matters technical and the other with international publications. A computer room was made available to enable software presentations to be made.

*Section Chairman: Prof. Zbigniew M. Ciok, Warsaw University of Technology, 00-662 Warsaw. Fax: +48 22 29 29 62.*

## Egypt

*By Prof. Abdel-Latif Ahmed*

**Membership Development:** The total membership of the Egypt Section is now over 400, an increase of 20% over last year; Student membership represents about 30% of the total.

**Chapters:** There are now five chapters in the Section: AP; MTT & ED; Control; Power; and Computer. AP has become a separate chapter, ED joined MTT as a joint chapter. Dr. Ibrahim Salem, Chairman of MTT/ED attended ED Region 8 meeting in Adenbra last September.

A new Student branch was recently approved in the American University of Cairo; we have therefore five student branches: University of Cairo; Alexandria University; Mansoura University; Menoufia University and the American University of Cairo.

**Future activities:** The Egypt Section will continue the arrangements for visits to Electric and Electronic factories as well as research centres. Last August there was a visit to "El-Maco", the switchgear and transformer company in Cairo.

*Chapter Chairman: Prof. Abdel-Latif Ahmed, 59 Madinet El-Ilam, FI-410 Agouza, Cairo 12411 Egypt. Tel: +202 346 4072. Fax: +202 700 884*



## *Are Engineers a Menace to Society?*

*By The Editor*

For some defects of the heart it is necessary to replace a faulty valve with a new one, an artificial one; they are delicate devices no larger than 30mm in diameter. The implantation process requires open heart surgery, a large and experienced medical team, and of course some risk to the patient - the cost is considerable. An operating theatre is full of the products of engineering effort of almost every conceivable kind; if success is to be assured it all has to work; the same must be said of the heart valve itself, from the original idea through manufacture, marketing, installation of the implant, surgery and the post operative management of the patient. It is not a washing machine - the synonym of failure is death

One frequently employed artificial heart valve, made in the United States and distributed throughout the world, consisted in essence of a circular ring to which struts were welded so as to form the base on which the operating mechanism was mounted. For various clinical reasons 24 failed valves were explanted and subjected to investigation. First of all to an external visual examination, perhaps they had been damaged during implant surgery; there was no evidence of surgical mishandling during either implantation or explantation.

The larger size of valve, 30mm, showed a cumulative risk of 17% after eight years, whereas for the smaller 20mm valves the estimated failure rate was less than 0.5%. The larger valves were never approved for use in the U.S. but they were exported; the company was criticised for selling them abroad when considerations of safety prevented their being approved in the U.S.

The results from a study of the 24 failed valves are quite staggering: seven of them (30%) had single strut fractures, in one a strut had already broken; two others showed evidence of incipient fatigue failure (one was already cracked, the other showed both intrusions and extrusions). The result: a very surprising 38% of the valves were in various stages of strut failure. The opinion of other medical workers is that owing to the lethal nature of the failing aortic valve strut, fractures remain under-reported - few such patients reach hospital and an autopsy is rarely carried out. These fractures cannot be seen by the unaided eye but are easily detected at 25 x magnification.

All the fractures occurred where the strut is welded to the ring; of the 24 failures, 10 had been welded by welder x and 8 by welder y, the remaining 6 were welded by other welders. According to an article in the Wall Street Journal, an examination of internal documents suggested that some manufacturing records were falsified, e.g. 1,500 valves were rewelded - additional welding being applied to valves that showed cracks after initial welding. One ex member of the staff claims that he was a polisher, not a welder but he reported that he knew that falsification of welding records took place. Another ex welder reported that he polished over the cracks rather than rewelding and falsely entered another welder's personal identification numbers in the records. With



**Université Catholique de Louvain**  
**Louvain-la-Neuve, Belgium**

The Department of Electrical Engineering at the UCL invites applications for a tenure-track position at the Assistant Professor level or higher, according to the experience of the applicant, in the area of **electromechanical systems**.

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The position requires a Ph.D. degree in engineering and an experience of research and teaching activities in the area of electromechanical systems. The applicant must be skilled in both writing and speaking French.

Apply by February 1, 1995 to the Vice-Chancellor of the University (Place de l'Université, 1, B-1348 Louvain-la-Neuve, Belgium), mention the reference 95/09.

Applications should include a certified copy of the diplomas, a full curriculum vitae, a bibliographic list and a copy of five most significant publications. They should mention the name and address of four referees (not member of the UCL and at least two outside Belgium).

More information about the position can be obtained from the Dean of the Faculty, Professor M. CROCHET (Rue Archimède, 1, B-1348 Louvain-la-Neuve).

this kind of testimony it is easy to suppose that some of the valves with single leg fractures were cracked valves which were polished to cover up a crack. It seems that amongst the welding staff there were some who spoke no English and another whose previous experience was as a dishwasher. The ability to speak English is not a necessity for welding, but for any credible quality control the ability to communicate would seem to be an essential requirement. Surely the engineering design has to be criticised in that it seems to take no account of the limitations of the manufacturing process. It would not be uncharitable to suggest that perhaps more thought was given to commercial gain than to the quality of the product.

I can hear voices protesting "but that was in America, and anyway they were mechanical engineers". Not so fast, it is on record that not very different heart valve problems have arisen in Europe. The increasing development of electronic devices to be implanted for the replacement of organs or the control of defective physiological function will put the electrical engineer in exactly the same situation. One day it may be your turn and as you lie on the operating table, just before anaesthesia removes responsibility, spare a thought for the design of the electronic device that in a few hours will be the only barrier between you and the gates of heaven; it will do you no good to hand the "Manufacturer's Guarantee" to Saint Peter.

*A more complete report on this problem will be found in IEEE Engineering in Medicine & Biology - April/May 1994.*

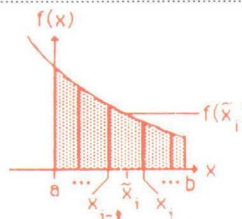
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By William Jameson

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Many examples are presented providing a valuable source and use. A BASIC program disk (On a 5.25" floppy disk) contains a complete list of these programs is



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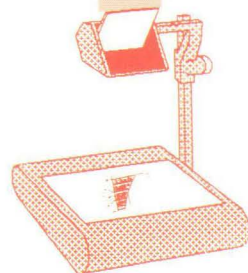
Contents include: • A Review of the Basics, • Fundamental Concepts of Analysis, • The Basic Calculus, • Single Variable Computational Methods, • Numerical Integration, • Systems of Linear Equations, • Non-Linear Equations in Engineering, • Utilization of Experimental Data in Computer Analysis, • Ordinary Differential Equations.

Course package includes: study guide; final exam; diskette; text, *The Calculus Tutoring Book*, by Carol and Robert Ash, IEEE Press.

*Applications of Mathematics in Electrical Engineering* costs \$249 for IEEE members. The product number is HL439-0.

It may be ordered by telephone +908 562 5498 4333 or fax +908 981 9667

For more information about self-study courses, contact Barbara Coburn at (908) 562-5498.



The Institute of Electrical and Electronics Engineers, Inc.



November 6-10

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The 21st Annual Conference of the IEEE Industrial Electronics Society in Orlando, Florida, U.S.A.

The objectives of the conference are to attract high quality papers and to promote professional interactions for the advancement of science, technology and fellowship. The technical program will be organized around the following conference themes:

- Power Electronics
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- Factory Automation
- Signal Processing and Control
- Emerging Technologies

Submit five copies of a 100 word abstract and a 2,000 word summary, in English, by January 27, 1995. Final manuscript due by August 4, 1995.

Further details from: Dr. C.J. Chen, AT&T Bell Laboratories, Room 14A 479, 67 Whippany Road, PO Box 903, Whippany, NJ 07981-0903 U.S.A. Telephone: +1 201 386 3095. Fax: +1 201 386 2942. Internet: cjc@whamt.att.com.



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	5-10	10-20	20-30	30-40	40-50
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10,000	700	1,000	1,300	1,600	1,900
15,000	1,050	1,500	1,950	2,400	2,850
20,000	1,400	2,000	2,600	3,200	3,800
25,000	1,750	2,500	3,250	4,000	4,750
30,000	2,100	3,000	3,900	4,800	5,700

Separate advertising *inserts* can be mailed with Region 8 News; they may be single sheets A4 or less, any size folded to A4 or less, or bound booklets. If required, inserts can be printed from camera-ready material supplied by the customer, or typeset from a customer's copy - there is no charge for layout.

A variety of selective mailings is available, based on geography or on members' technical interests. Special mailings at times other than the publication dates are also available. Details from the editor.

## ADVERTISING IN REGION 8 NEWS

		B & W £ Sterling	Colour £ Sterling
1 Page	18.5x26.5 cm	1200	1400
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¼ Page	9.2x13.2 cm	300	350
Conference Record		£50 (9x3cm) - title in colour	

Region 8 News is published in February, May, August and November and is individually mailed to approximately 28,000 English speaking Electrical and Electronics Engineers in Europe, Middle East and Africa. It provides a variety of advertising services used principally for Conference Announcements, Technical Courses and Scientific Publications.

Material may be submitted camera-ready, as colour separation films, or on paper by fax or mail; there is no charge for layout. Publication dates are the first week in February, May, August and November; Deadlines - 10th of the month preceding publication. Further details from the editor.

Readership is representative of all groups, from University staff and students to engineering management in major industrial concerns

## Region 8 Conference Record

Sanremo, Italy

25-27 January 1995

### 3rd Euromicro Workshop on Parallel and Distributed Processing

EUROMICRO, PO Box 2346, NL-7301 EA Apeldoorn, Netherlands  
Tel: +31 55 55 73 72, Fax: +31 55 55 73 93  
E-mail: scarabot@elet.polimi.it (specifying as subject: sanremoinfo)

Istanbul, Turkey

14.16 August 1995

### International Conference on Recent Advances in Mechatronics

In Tech, Co-op with ASME, IEEE, IEEJ, IFAC, JSME, RSJ and SICE.  
Contact Okyay Kaynak, Bogazici University, Bebek, 80815 Istanbul  
Turkey. Fax: +90 212 257 5030. E-mail: kaynak@hisar.cc.boun.edu.tr

Aachen, Germany

August 28 - 31, 1995

### EUFIT '95

Third European Congress on Intelligent Techniques & Soft Computing

ELITE-Foundation, EUFIT '95, Promenade 9,52076 Aachen, Germany  
Tel: +49 2408 6969. Fax: +49 2408 94582.

Hartford, CT, USA

5-16 June 1995R

### Clinical Engineering Summer Institute

Clinical engineering Summer Institute, Hartford Graduate Center,  
School of Engineering Science, 275 Windsor St, Hartford CT USA.  
06120-2991. 1-800-290-7637 or (203 548-2450

Røros, Norway

22-23 June 1995

### The 4th International Workshop on Acoustic Echo and Noise Control

IWAENC '95, SINTEF DELAB, N-7034 Trondheim, Norway  
E-mail: IWAENC-95@DELAB.SINTEF.No  
Tel: +47 73 59 26 94 Fax: +47 73 59 10 99

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**MS-DOS 5.0 USER'S Guide**

"How much air is permitted in the manufacture of ice cream?  
Rowcombe's is a low 35%; another manufacturer uses up to  
70 %; a few even double the volume with 100% air"

**The Guardian Weekend**

"Beef exports to Germany are down 700%"

**BBC Television News**

"A recent survey suggests that one in eight UK companies  
have never used a temporary secretary service and 90% are  
unaware of it."

**Management Today**

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